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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/624,530

07/23/2003

Paul Jarski

32971/US/2

6659

7590

09/22/2004

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EXAMINER

BENSON, WALTER

ART UNIT

PAPER NUMBER

2858

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/624,530

Applicant(s)

JARSKI ET AL. *ck*

Examiner

Walter Benson

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-5 are presented for examination.

Drawings

2. The drawings are objected to because item 150, described in specification on page 10, line 8, is not shown in any of the figures.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun et al. (US Patent No. 6,734,435 and Sun hereinafter) in view of Lovelock (US Patent No. 4,866, 278 and Lovelock hereinafter).

5. As to claims 1 and 5, Sun discloses and ionization detector and method for ionizing a samples in an ionization chamber substantially as claimed, comprising:

an ionization chamber configured to allow a sample fluid to flow through (col. 7, lines 27-28);

a first electrode (col.5, line 55);

a second electrode (col. 5, lines 55-56),

the first and second electrodes capable of forming an electrical field in the ionization chamber (col. 7, lines 34-37);

an optical window configured to allow a radiation beam to enter the ionization chamber (col. 5, lines 15-20);

Sun did not expressly disclose:

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where a direction of propagation of the radiation beam in the ionization chamber is co-linear to a direction of flow of the sample fluid in the ionization chamber.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Sun as evidenced by Lovelock.

In an analogous art, Lovelock discloses an ionization detector having an ionization chamber in which a sample gas can enter having:

where a direction of propagation of the radiation beam in the ionization chamber is co-linear to a direction of flow of the sample fluid in the ionization chamber (col. 2, lines 29-37).

Given the teaching of Lovelock, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Sun by employing the well known or conventional features of a ionization detectors, such as disclosed by Lovelock, in order to detect low concentrations of a specific gas in gas samples in gas chromatography.

6. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun in view of Lovelock further in view of Syage et al. (US Patent No. 6,630,664 and Syage hereinafter).

Although the combine teaching of Sun and Lovelock shows substantial features of the claimed invention (discussed in paragraph 5 above), it fails to disclose:

where the radiation beam is a laser beam produced by the laser [claim 2];

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where at least a portion of the first electrode forms a first area of an interior surface of the ionization chamber, and at least a portion of the second electrode forms a second area of the interior surface of the ionization chamber [claim 3];

where the sample fluid comprises gases [claim 4].

Nonetheless, these features are well known in the art and would have been an obvious modification to the system disclosed by Sun in view of Lovelock as evidenced by Syage.

In an analogous art, Syage ionization detector having:

where the radiation beam is a laser beam produced by the laser [claim 2] (col. 2, line 62 – col. 3, line 6) to provide a light source with the appropriate wavelength;

where at least a portion of the first electrode forms a first area of an interior surface of the ionization chamber, and at least a portion of the second electrode forms a second area of the interior surface of the ionization chamber [claim 3] (col. 3, lines 21-24) to provide a fast response time for a sample injected into the chamber;

where the sample fluid comprises gases [claim 4] (col. 4, lines 47-51).

Given the teaching of Syage, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Sun in view of Lovelock by employing the well known or conventional features of ionization detectors, such as disclosed by Syage, for increasing the number of ions to improve the sensitivity of the detector and for the purposes discussed above.

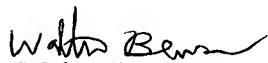
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter Benson whose telephone number is (571) 272-2227. The examiner can normally be reached on Mon to Fri 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Walter Benson
Patent Examiner

September 17, 2004